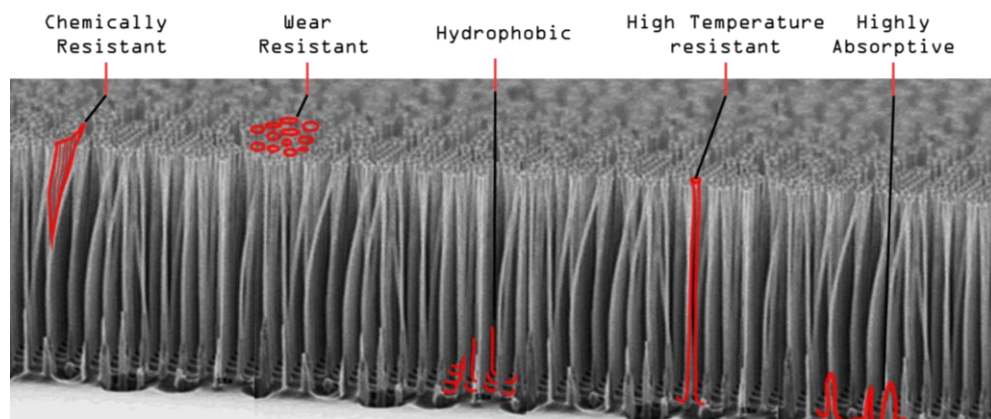


### PicoWorX

*A Instrument for coating Large Scale Ultra dense Carbon Nanotube sheets*



#### Opportunity

The PicoworX coating instrument developed by researchers in UCD, allows the rapid large-scale coatings using ultra high density carbon nanotubes, CNT, on both flat and curved substrate.

Unlike current technologies that are size limited and require the use of vacuum conditions and expensive equipment, PicoWorX can be used at room pressures on a variety of surfaces and is not size restricted.

#### Technology Overview

Coating substrates using PicoWorX with a layer of CNT offers significant commercial potential due to CNT exceptional mechanical, electrical, and thermal properties. CNTs exhibit remarkable tensile strength and flexibility, making them ideal for enhancing the durability and resilience of various materials. Their high electrical conductivity can be leveraged in the development of advanced electronic devices, such as flexible displays and high-performance transistors. Additionally, the excellent thermal conductivity of CNTs can improve heat dissipation in electronic components, leading to more efficient and reliable devices.

#### Key Features/Advantages:

- **Ultradense:** Ability to fully coat substrates
- **Scalable:** Can supply both small scale to large m<sup>2</sup> scale
- **Fast:** Commercial (and environmentally friendly) technology
- **Design flexibility:** Ability to coat various substrates and shapes
- **Cost:** Magnitude lower than current processing technology

#### Value Proposition:

An Enabling Instrument to allow ultradense Carbon Nanotubes sheets to be printed on large scale

#### Markets:

Temperature Control  
Chemical  
Electrical—Sensing  
Energy Systems

#### Lead Inventors:

Professor Dominic Zerulla

#### IP Status/Publication:

Technical Expertise and know-how



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